UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,832	01/26/2001	Yasuhiro Omura	108455	4433

25944 7590 11/03/2006

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER	
FULLER, RODNEY EVAN	
ART UNIT	**PAPER NUMBER**
2851	

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/769,832	OMURA ET AL.	
	Examiner	Art Unit	
	Rodney E. Fuller	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19,21-48,67-69 and 85-142* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19,21-48,67-69 and 85-142* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Rodney Fuller
Primary Examiner

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/25/06; 10/2/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on September 25, 2006 has been entered.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-19, 21-48, 67-69 and 85-142 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 6,909,492 (Omura). Although the conflicting claims are not identical, they are not patentably distinct from each other. The current claims are broader and thus fully met by claims 1-26 of Omura (US 6,909,492)

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-19, 21-48, 67-69 and 85-142 are rejected under 35 U.S.C. 102(e) as being anticipated by Shafer, et al (US 6,512,631).

Regarding claims 1, 26-28, 46, 67 and 68, Shafer discloses "a first imaging optical subsystem (Fig. 5, ref.# 530) which is arranged in an optical path between the first surface and the second surface and has a dioptric imaging optical system (Fig. 5, ref. #501-505) to form a first intermediate image of the first surface; a first folding mirror (Fig. 5, ref.# 507) which is arranged in the vicinity of a position of forming the first intermediate image to deflect a beam prior to or after the position where the first intermediate image is formed; a second imaging optical subsystem (Fig. 5, ref.# 508,

509) for forming a second intermediate image with a magnification factor nearly equal to the first intermediate image in the vicinity of a position of forming the first intermediate image based on the beam from the first intermediate image, the second imaging optical subsystem has a concave reflecting mirror (Fig. 5, ref.# 509) and at least one negative lens (Fig. 5, ref.# 508); a second folding mirror (Fig 5, ref.# 510) which is arranged in the vicinity of a position of forming the first intermediate image to deflect a beam prior to or after the position where the second intermediate image is formed; and a third imaging optical subsystem (Fig. 5, ref.# 534) which is arranged in an optical path between the second imaging optical subsystem and the second surface and has a dioptric imaging optical system (Fig. 5, ref.# 513-519) to form the reduced image onto the second surface based on the beam from the second intermediate image."

Regarding claim 2, Shafer discloses "wherein a reflecting surface of the first folding mirror (Fig. 5, ref.# 507) and a reflecting surface of the second folding mirror (Fig. 5, ref.# 510) are positioned so that they do not overlap spatially."

Regarding claims 3 and 14, Shafer discloses "wherein all lenses constituting the first imaging optical subsystem (Fig. 5, ref.# 530) and all lenses constituting the third imaging optical subsystem (Fig. 5, ref.# 534) are arranged along a single optical axis."

Regarding claims 4 and 15, Shafer discloses "wherein a magnification factor B2 of the second imaging optical subsystem satisfies the following condition: $0.82 < |B2| < 1.20$." (column 10, lines 59-61: Mag. = 1)

Regarding claims 5 and 16, Shafer discloses "wherein the following condition is satisfied: $|L1-L21| / |L1| < 0.15$, where a first distance between the first intermediate image

and the concave reflecting mirror in the second imaging optical subsystem along the optical axis is defined as L1, and a second distance between the second intermediate image and the concave reflecting mirror in the second imaging optical subsystem along the optical axis is defined as L2." (Fig. 5 shows the distance from the first intermediate image and the mirror is substantially the same as the distance from second intermediate image and the mirror. Thus, L2-L1 approx. = 0. Thus, approx 0 / L1 = approx 0, which is less than 0.15.)

Regarding claim 19, Shafer discloses "the first intermediate image (Fig. 3, ref.# 309) is formed in an optical path between the first folding mirror (Fig. 3, ref.# 305a) and the second imaging optical subsystem (Fig. 3, ref.# 306); and the second intermediate image (Fig. 3, ref.# 309)is formed in an optical path between the second imaging optical subsystem and the second folding mirror (Fig. 3, ref.# 305b)."

Regarding claim 21, Shafer discloses "wherein: 85% of the number of lenses in all lenses (Fig. 5, ref.# 501-505, 513-519) constituting the catadioptric optical system are arranged along the single optical axis."

Regarding claim 22, Shafer discloses "wherein an intersection line of an extension plane of a reflecting surface of the first folding mirror (Fig. 5, ref.# 507) and an extension plane of a reflecting surface of the second folding mirror (Fig. 5, ref.# 510) is set up so that an optical axis of the first imaging optical subsystem (Fig. 5, ref.# 530), an optical axis of the second imaging optical subsystem (Fig. 5, ref.# 534) and an optical axis of the third imaging optical subsystem (Fig. 5, ref.# 508, 509) intersect at one point."

Regarding claim 23, Shafer discloses "wherein the second imaging optical subsystem has at least two negative lenses (Fig. 5, ref.# 508, 509)."

Regarding claim 24, Shafer discloses "wherein: the first folding mirror (Fig. 5, ref.# 507) has a back surface reflecting surface for reflecting a beam from the first imaging optical subsystem (Fig. 5, ref.# 530) to the second imaging optical subsystem (Fig. 5, ref.# 534); and the second folding mirror (Fig. 5, ref.# 510) has a back surface reflecting surface for reflecting a beam from the second imaging optical subsystem to the third imaging optical subsystem (Fig. 5, ref.# 508, 509)."

Likewise, the remaining dependent claims are met by the disclosure of Shafer.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney E. Fuller whose telephone number is 571-272-2118. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rodney E Fuller
Primary Examiner
Art Unit 2851

October 26, 2006